

/Rei Tsang Shiao/ (06/05/2008)

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**NOVEL BRANCHED ALPHA-CYANOSTILBENE FLUOROPHORES**

This application is a 371 PCT/KR02/01245 filed on 06/09/2002.

**TECHNICAL FIELD**

The present invention relates to novel branched fluorescent materials having a  $\alpha$ -cyanostilbene core structure, which can variously tune the fluorescent colors of red, green and blue.

**BACKGROUND ART**

Recently, the organic EL element has been attracted considerable attention as a most suitable material for the flat panel display (FPD) having high brightness. Under this trend, a lot of the researches and developments have been carried out vigorously. The organic EL element has a structure wherein the luminescent layer is inserted between the two electrodes. The hole streaming in the anode positively charged recombines with the electron flowing in from the cathode negatively charged in the luminescent layer to become finally luminescent. The both materials of high molecular and low molecular can all be utilized to the production of the organic EL element. The both of them are proved to provide the organic EL element having high brightness.

The organic EL element is divided broadly into the two types. The one forms the luminescent layer by the use of the materials comprising the fluorescence dye to transporting the charges (See Journal of the Applied Physics, 65, 3610, 1989). The other utilizes the luminescence dye per se as the luminescent layer (See Japanese Journal of the Applied Physics, 27, L269, 1988).

The organic EL element utilizing the luminescence dye per se as the luminescent layer is further divided into the following three types. The first one is the three layers element wherein the luminescent layer is inserted between the hole transporting layer and the electron transporting layer, the second one is the two layers element wherein the hole transporting layer and the luminescent layer are laminated to the other one, and the third one is the two layers element wherein the electron transporting layer and the luminescent layer are laminated to the other one. So, the organic EL element has been known as exhibiting the improved luminescence efficiency in case that it consists of two or three